AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A method for structuring the surface of a substrate, whereby the substrate is prepared and the material of the substrate is elastically expanded by the application of a tensile stress so that a surface area of the substrate to be structured is enlarged, whereby then at least one solution is applied to the enlarged surface area, which solution contains at least one solid substance dissolved in a solvent, whereby the expansion is then at least partly reversed by reduction or removal of the tensile stress, so that the size of the structure is reduced to the size of the structure to be produced, whereby the solvent is removed from the surface of the substrate so that the solid substance remains behind,

wherein the solutions are applied to the surface area so as to form, on the surface of the substrate, a plurality of fields arranged in a matrix pattern, further wherein said plurality of fields are separated from one another by spaces.

2. (Previously Presented) A method for structuring the surface of a substrate , whereby the substrate is prepared, and on a surface area of the substrate which is enlarged with respect to a surface area that is to be provided with the structure, at least one solution is applied that contains at least one solid substance dissolved in a solvent, whereby the material of the substrate is elastically compressed by the application of a compression stress so that the size of the surface area on which the solution was applied is reduced to the size of the surface area to be provided with the structure, and whereby the solvent is removed from the surface of the substrate so that the solid remains behind.

3. (Currently Amended) The method as claimed in claim 1, characterized in that the substrate is realized in the form of a board or film and that the material of the substrate is expanded and/or compressed by central stretching in the plane of extension of the substrate

~~radially~~ with respect to a center that is preferably approximately in the center of the substrate .

4. (Previously Presented) The methodas claimed in claim 1, characterized in that the material of the substrate is expanded and/or compressed by one-dimensional stretching in the plane of extension of the substrate .

5. (Cancelled)

6. (Previously Presented) The method as claimed in claim 1, characterized in that to produce the structure, at least one biomolecule is applied to the substrate that preferably bonds to the substrate.

7. (Previously Presented) The method as claimed in claim 1, characterized in that the substrate consists of an optically transparent material.

8. (Previously Presented) The method as claimed in claim 1, characterized in that the substrate contains at least one elastomer, in particular polypyrrole, polyacetylene and/or polydimethylsiloxane (PDMS).

9. (Currently Amended) ~~The~~ A method ~~as claimed in claim 1,~~ for structuring the surface of a substrate, whereby the substrate is prepared and the material of the substrate is elastically expanded by the application of a tensile stress so that a surface area of the substrate to be structured is enlarged, whereby then at least one solution is applied to the enlarged surface area, which solution contains at least one solid substance dissolved in a solvent, whereby the expansion is then at least partly reversed by reduction or removal of the tensile stress, so that the size of the structure is reduced to the size of the structure to be produced, whereby the solvent is removed from the surface of the substrate so that the solid substance remains behind,

~~characterized in that~~ wherein the substrate, after the reduction or removal of the tensile stress and/or after the application of the compression stress is applied to a detection

device which is preferably integrated in a semiconductor chip, preferably so that the coating areas each cover at least one sensor of the detection device.

10. (Currently Amended) ~~The~~ A method ~~as claimed in claim 1,~~ for structuring the surface of a substrate, whereby the substrate is prepared and the material of the substrate is elastically expanded by the application of a tensile stress so that a surface area of the substrate to be structured is enlarged, whereby then at least one solution is applied to the enlarged surface area, which solution contains at least one solid substance dissolved in a solvent, whereby the expansion is then at least partly reversed by reduction or removal of the tensile stress, so that the size of the structure is reduced to the size of the structure to be produced, whereby the solvent is removed from the surface of the substrate so that the solid substance remains behind,

~~characterized in that~~ wherein the substrate contains a ceramic material, preferably tetragonal zirconium oxide, magnesium aluminum oxide spinel and/or alpha aluminum oxide.

11. (Previously Presented) The method as claimed in claim 2, characterized in that the substrate is realized in the form of a board or film and that the material of the substrate is expanded and/or compressed by central stretching in the plane of extension of the substrate radially with respect to a center that is preferably approximately in the center of the substrate .

12. (Previously Presented) The method as claimed in claim 2, characterized in that the material of the substrate is expanded and/or compressed by one-dimensional stretching in the plane of extension of the substrate .

13. (Previously Presented) The method as claimed in claim 2, characterized in that the solutions are applied to the surface area so that on the surface of the substrate, a coating is formed that has a plurality of different coating areas arranged next to one another in a matrix.

14. (Previously Presented) The method as claimed in claim 2, characterized in that to produce the structure, at least one biomolecule is applied to the substrate that preferably

bonds to the substrate.

15. (Previously Presented) The method as claimed in claim 2, characterized in that the substrate consists of an optically transparent material.

16. (Previously Presented) The method as claimed in claim 2, characterized in that the substrate contains at least one elastomer, in particular polypyrrole, polyacetylene and/or polydimethylsiloxane (PDMS).

17. (Previously Presented) The method as claimed in claim 2, characterized in that the substrate, after the reduction or removal of the tensile stress and/or after the application of the compression stress is applied to a detection device which is preferably integrated in a semiconductor chip, preferably so that the coating areas each cover at least one sensor of the detection device.

18. (Previously Presented) The method as claimed in claim 2, characterized in that the substrate contains a ceramic material, preferably tetragonal zirconium oxide, magnesium aluminum oxide spinel and/or alpha aluminum oxide.